GEOGRAPHIC SCHOOL BULLETINS

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VOLUME XXXV, NO. 23, MARCH 18, 1957 . . . *To Know This World, Its Life*

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

South Pass, Wyoming, tops the continental divide. Two wives of missionaries led the way for thousands of pioneer women, rolling westward on the Oregon Trail

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admitting a scientific expedition sponsored by the National Geographic Society, the Smithsonian Institution, and Yale University. Nepal's first envoy came to the United States. Next year, an air route linked Nepal with India. Later, Alpinists were welcomed to try Mount Everest. All this was revolutionary. No more than 230 Westerners had crossed the barriers prior to World War II.

DENIS BERTHOLET

Three R's in Nepal

Though headed for change, Nepal adores its ancient rites. From religious pilgrims' lips flows the mystic prayer: "Om mani padme hum" (Oh thou jewel in the lotus, amen!). Businesslike voices, meanwhile, discuss ways to break the people's dependence on primitive agricultural methods.

Roads and airstrips are appearing—thanks to United States and Indian aid. While youngsters learn to read, below, adults study scientific farming. Hydroelectric projects may someday exploit iron, coal, lead, zinc, and copper deposits.

About 100,000 Nepalese, fragment of the kingdom's 8,596,000 inhabitants, reside by the broad paved avenues and chasmlike alleys of Katmandu, peak-cradled capital. At nearby Pashupatinath temple, below, Hindus bathe in the sacred Baghmati River.

Castes cut sharp lines. Tribes play distinctive roles. Gurkhas, for example, have won honors in war. On Nepal's peaks, Sherpas have forged fame. One of them, Tenzing Norkey, conquered Everest with Hillary.—S.H.

NANCY DAMMANN

ROYAL GEOGRAPHICAL SOCIETY

Pay As You Climb In Nepal

THERE'LL be no more free mountain climbing in Nepal, India's neighbor, where earth's highest ranges scrape the sky. Devoid of much else to sell, the "mountain kingdom" hopes to harvest some rupees from the challenge of its peaks. Those who tackle Mount Everest (29,028 ft.) must pay 3,000 rupees ($630). It costs the same to assault Mount Dhaulagiri (26,811 ft.), earth's tallest unscaled peak. Lesser monarchs below 25,000 feet are worth 1,000 rupees ($210) —practically basement bargains.

Nepal has no shortage of this commodity. Mountains of all shapes and sizes cover nine tenths of the independent kingdom's 54,000 square miles, sandwiched between northern India and communist-controlled Tibet. Only flatlands lie in a 10- to 30-mile wide strip along the southern border. Shaggy foothills wallow northward off the plain. Then come low mountains; then range upon range of towering ramparts until the awesome spine of the Himalayas reaches for its climax—Mount Everest, at the Nepal-Tibet frontier.

Foreigners now may gasp at the scenery. Just last year, Nepal broke its ancient policy of seclusion by letting outsiders view the coronation of a new ruler with a king-sized name—His Majesty Maharajadhiraja Mahendra Bir Bikram Jang Bahadur Shar Bahadur Shamsher Jang. Doors had cracked slightly in 1948,

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bring loads of produce into the same Wilmington street market that has survived for centuries. And if you steal a horse in Delaware today, it's still in the books that you can be tied to a whipping post, above, to receive five to 60 lashes "publicly by strokes on the bare back."

"The Blue Hen State," first to ratify the Federal Constitution, shares the Delmarva Peninsula with portions of Maryland and Virginia. The Delaware River, Bay, and a chunk of the Atlantic Ocean form her eastern boundary. Inland stretch level acres of sandy, well-watered soil. According to Delaware dwellers, it will grow anything meant for temperate zones. Wheat, corn, hay, and other field crops spread for green miles. Delaware truck farms heap vegetables on the shelves of big eastern cities of New York, Philadelphia, Baltimore, and Washington, D. C. In the spring, a stray breeze floats the fragrance of orchards in bloom. Broilers for America's Sunday dinners cackle and crow on vast poultry farms. More than two thirds of the state is productive farm land.

E. I. DU PONT DE NEMOURS & COMPANY

NYLON developed by Du Pont changed textile industry. Here, filaments are wound on bobbins at Seaford plant

Delaware seems to like firsts. From being the "first state in the Union," to putting the first summer apples on the market, she scores high. Delaware's Oliver Evans, who developed a high-pressure steam engine, has been called the nation's first inventor. The first iron seagoing propeller steamer slipped into the Atlantic from a Delaware shipyard. In the mid-19th century, a small Delaware machine shop earned its first dollar. It grew until it was grinding out 23-ton anchors for the Brooklyn Bridge.

About the same time, a young worker in a match factory started "playing with fire" in his own kitchen. He developed the parlor, or cracking match. His firm became the giant Diamond Match Company.

Delaware's biggest story, however, is of a young Parisian aristocrat, Eleuthère Irénée Du Pont, who came to America after the French Revolution. He liked hunting, but didn't like New World gunpowder. It was expensive, quality poor.

Du Pont bought some Delaware land, lived in a log cabin, and founded a powder works. Today, E. I. Du Pont de Nemours and Company is one of the largest manufacturers of chemical products in the world. Though headquarters are still in Wilmington, Du Pont plants across the nation turn out plastics, nylon, munitions, and a score of other products.—J.A.

UMI

THIS STRETCH of Delaware coast faces the Atlantic. Most rims Delaware Bay and the river mouth where ships nose into Wilmington.

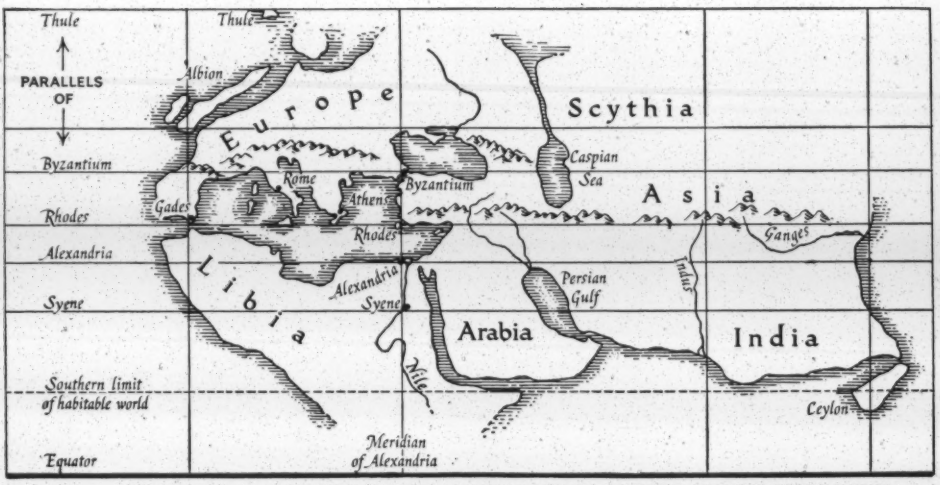
DELAWARE STATE DEVELOPMENT DEPARTMENT

Delaware Is A Tiny Giant

THE big blue Atlantic hurls surf and salt spray on Delaware's coast. Thousands loll near beach umbrellas at such summer resorts as Rehoboth (above) and Bethany Beach. Yet inland, beyond the fragrant coast pines and summer cottages, a tiny giant of a state has work sleeves rolled up. When the second smallest state means business, it's usually on a big scale. Delaware (2,057 square miles) would rattle around inside some Texas or Australian ranches. But in one year the state's poultry industry alone earned $60,000,000.

As modern manufactures flow from Delaware, remnants of early days linger in its old towns. Swedish, Dutch, Finnish, Scottish, and Irish family names descend from settlers. Twice weekly, farmers

NATIONAL GEOGRAPHIC PHOTOGRAPHER JOHN E. FLETCHER



NGS MAP FROM "THE ROUND EARTH ON FLAT PAPER," A NATIONAL GEOGRAPHIC SOCIETY MONOGRAPH

possible. The new National Geographic Map of The World, below, a Van der Grinten Projection, limits most distortion to polar regions.

Released as a supplement to the March, 1957, issue of the National Geographic Magazine, the new map contains the latest in boundaries, physical features, and names. It ranks as one of the greatest compendiums of knowledge ever printed on a single sheet. It is available to teachers and students, as are more than 50 other National Geographic maps, at 75¢ apiece on paper, $1.50 on fabric, $3.00 in greatly enlarged size. Map pictured below is standard size.—

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WILLIAM CAMPBELL III, NATIONAL GEOGRAPHIC STAFF

Modern cartography blends art with science, bringing the world to the student

Maps Through The Ages

EVER since the first cave man traced the path to his hunting ground, humans have drawn maps to guide their travels. All are based on a master plan—a projection. The old Chinese map, above, is a projection based around one center, China, the point of light-colored land facing east and marked by a round symbol, in the middle of the map. It lies between two rivers, the Yellow and the Yangtze. Northeast of it curves the Korean Peninsula. According to symbols, "The Land without Sunshine" lies in the north, Siam and India sprawl in the west. Farther from home, the Chinese cartographers let their imaginations go. They indicate "Land of Troubled People," "Land of Three-headed People," "Land of Polite Women," and refer to one place, tersely, as "Uninteresting Land."

To the Chinese, the world consisted of China—and mysterious outlying regions. To the Greek scholar, Eratosthenes, the world (below) was the Mediterranean and its neighbors. Here, for the first time, a map was drawn on a framework of parallels and meridians.

Map makers now use a regular grid and a variety of projections in order to transfer the round surface of the earth to flat paper with as little distortion as

Many emigrants scrawled names on Wyoming's Independence Rock, "Register of the Desert"

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

The Oregon Trail

Continuing the series on America's westward expansion

THE weather-beaten sign said "Road to Oregon". Children peered at it from under the canvas tops of wagons. Men and women glanced at it and tightened their lips. It pointed the way for a jolting, 2,000-mile trip through wild, Indian-infested lands to a magic-sounding region where a family might live off new acres. Seldom did three words open a more thrilling chapter of American destiny.

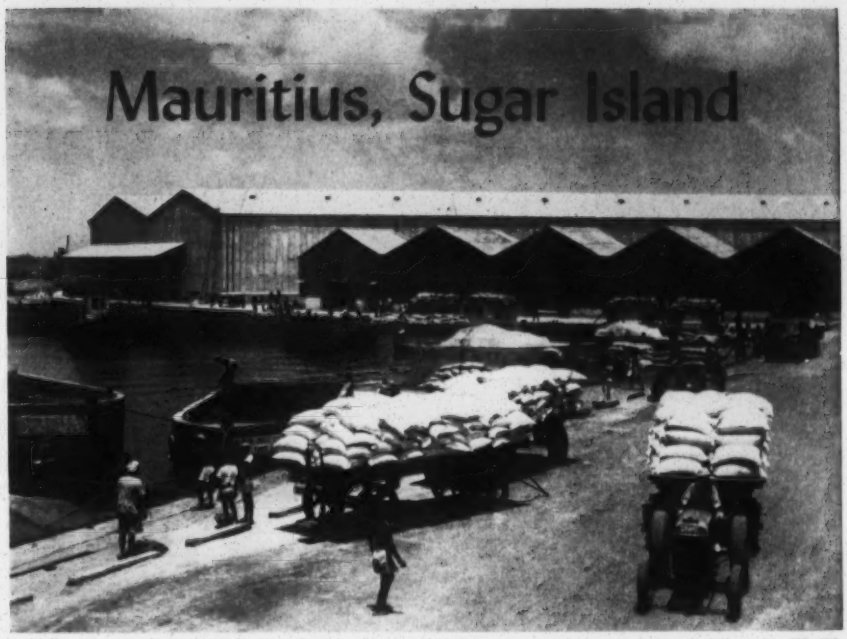
The sign stood 41 miles from Independence, Missouri, at a junction on the Santa Fe Trail (GSB March 11, 1957). Wagons that kept on for Santa Fe would return with commercial cargoes. But of those that turned aside—they often bore the painted words, "For Oregon"—few would come back. They carried emigrants, moving west to settle.

A few white men already roamed Old Oregon, which then included Washington, Idaho, and parts of Wyoming, Montana, and British Columbia. Some traded in furs, others ministered to the Indians. Missionaries Whitman and Spalding brought their wives across the Rockies in 1836 (see cover), blazing part of the Oregon Trail. But the first great trek started in May, 1843, when some 875 people of the "Great Migration" turned their wagons onto the road to Oregon.

Some looked for a new start after the 1837 depression. Some Southerners fled the economic squeeze of the plantation system.

UMI

Mauritius, Sugar Island



PIX, INC.

OUT in the harbor, ships rest on blue Indian Ocean waters, aloof and serene. On the dock (above), thuds, shouts, drifting smoke, and the heavy smell of sugar make tropical air seem hotter. The tiny island of Mauritius loads another shipment for the teacups of a Sussex manor, the daily batch of scones in a London bakery. Mauritius, "Star of the Indian Ocean," 716 square miles of hilly terrain, is the largest sugar cane grower of Britain's colonies. Most goes to Britain.

Remote Mauritius, about 1,000 miles east of Africa, is rich in history, diverse in nationalities and culture. The Portuguese came first among Europeans. The Dutch named the island. Its culture reflects years of French control. Most of its population is Indian. But it is a British Crown Colony.

To naturalists, Mauritius brings to mind the Dodo, an ungainly, flightless bird long since extinct. A stamp collector's dream is to win the Mauritian "twopenny blue", one of the world's rarest stamps. Mauritius exports some aloe fiber and rum. But its strength lies in acres of cane. Here is enough sugar to bury each of more than half a million inhabitants under about a ton a year.

Along narrow streets of Port Louis, the capital, graceful balconied mansions, now decaying, tell of an old French aristocracy. Indians crowd them now, descendents of laborers brought in when the English abolished slavery. Sugar built the offices in the town's business section. As Joseph Conrad noted, "All the population lives for it and by it. Sugar is their daily bread."—J.A.

NGS MAP

where wheels had crushed a child. In years to come, most graves were dug in the Trail so ruts would obliterate them and foil looting Indians.

The route joined the Sweetwater, followed it upstream past Independence Rock, where men carved names and gazed at distant mountains. They crossed the continental divide at South Pass, stopped at Fort Bridger, then picked up the Snake River in Idaho—a tributary of the Columbia itself. Sniffing victory, travelers broke into groups. They pressed toward Fort Boise, and clawed up canyons and down gorges to the valley of the Grande Ronde, where locked wagon wheels slid down hundreds of feet of crumbling rock. Beyond the Blue Mountains they diverged, heading for the Willamette Valley (site of Portland). Some rafted wagons down frothing Columbia River rapids. Some slashed through dense forest

UNIVERSITY OF OKLAHOMA PRESS © 1951. PHOTO COURTESY WALTERS ART GALLERY, BALTIMORE

INDIANS AND EMIGRANTS rubbed shoulders at Fort Laramie, trading post on the Trail. This painting is by Alfred Jacob Miller who journeyed west before the Great Migration

along the banks, impatient to reach the proverbial end of the rainbow.

Until railroads came, some 300,000 emigrants followed that road to Oregon —or branched off to Salt Lake City or the California gold fields. Many had a far harder time than the first group. Indians saw the threat to hunting grounds and attacked savagely. Wagoners soon learned to circle when they made camp, turning the trains into fortresses. Scouts felt the way, changing routes to avoid trouble. Cavalry came to lend protection. But one year cholera struck—even worse than the Sioux.

Today's highways follow sections of the Oregon Trail, passing the same landmarks. You may still find a harness ring or stove door beside hardened ruts. And Mount Hood, looming near the Trail's end, still seems a welcoming beacon. Around it lie Oregon's fruits, its flashing salmon and rich timber. The movers on the Oregon Trail were dreaming of such wonders when they turned by the sign in the road.—S.H.

NATIONAL GEOGRAPHIC PHOTOGRAPHER WILLARD R. CULVER

SCOTTS BLUFF National Monument overlooks Mitchell Pass where wagons began to climb

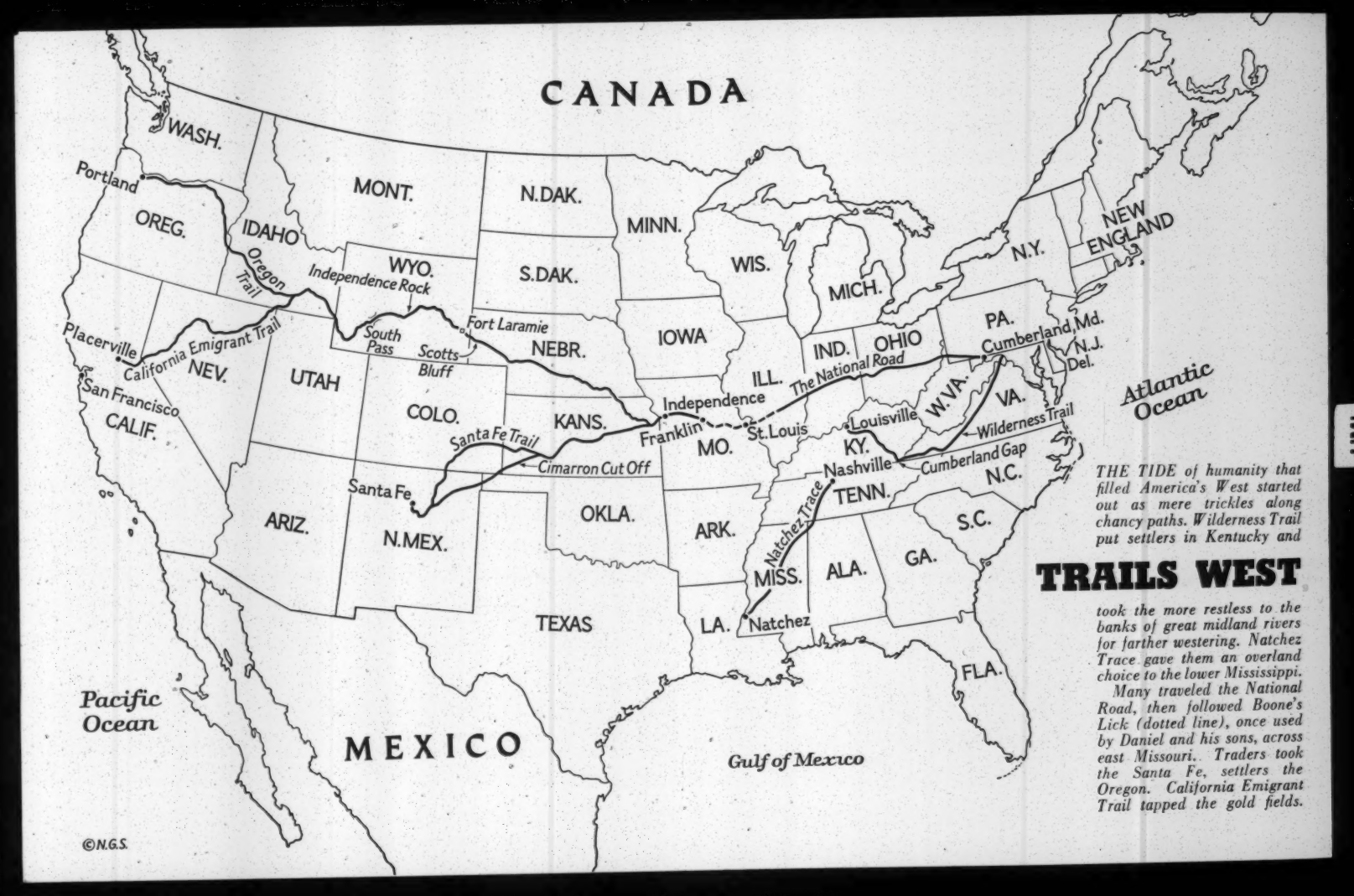
One simple soul liked the idea of a country without cocklebur or fences. Most wanted a chunk of land. Generally, none used the word "pioneer." They thought of themselves, simply, as "movers." Whatever their reasons, they turned aside at the sign. Long whips cracked. Oxen surged against traces. The wagons lurched forward to cut across the northeast corner of Kansas.

Hardships rode beside the movers. A Frenchman called Pappa demanded an exorbitant fee for ferrying them across the Kansas River. So wagoners built a raft instead, which almost drowned some children. A fiendish storm crumpled tents, capsized a wagon, and set tempers aflame. Harsh words flew between those who owned cows and those who didn't. The beasts slowed the march.

When the Platte River in Nebraska finally hove into sight, drivers figured, despondently, that they had averaged only about 10 miles a day. But they were getting used to the prairie, learning to build fires with buffalo chips, to make boats of buffalo hide for crossing the shallow Platte when quicksands prevented wading. They passed the Chimney and Scotts Bluff—landmarks to guide future wagon trains. Oxen weakened as the trail gradually climbed. Women had to jettison cherished parlor tables, cast-iron stoves. They were often left in neat piles with a neighborly sign—"Help Yourself."

By mid-July, outriders glimpsed Fort Laramie, famed southeastern Wyoming outpost. Word passed back, wagon to wagon. Women freshened up. Inside the fort, traders dusted fiddles and accordions. That night, the place jumped to "The Girl I Left Behind Me" and "Old Zip Coon." Squatting Indians listened, marveling that so many people came suddenly in wheeled tepees.

Refreshed, the pioneers ambled up the North Platte River. Wagons screeched and shuddered as the way grew rockier. A little grave beside the Trail told



THE TIDE of humanity that filled America's West started out as mere trickles along chancy paths. Wilderness Trail put settlers in Kentucky and

TRAILS WEST

took the more restless to the banks of great midland rivers for farther westering. Natchez Trace gave them an overland choice to the lower Mississippi.

Many traveled the National Road, then followed Boone's Lick (dotted line), once used by Daniel and his sons, across east Missouri. Traders took the Santa Fe, settlers the Oregon. California Emigrant Trail tapped the gold fields.